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REMARKS/ARGUMENTS

In the Office Action dated April 28, 2004, Claims 1-32 are pending. Claims 19-32, previously withdrawn, are now cancelled. Claims 1-4, 6, 7, 9-12, and 14-17 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,248,077 to Rhoades, et al. Claims 1, 2, 5, 9, 10, 13, 15, and 18 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 3,831,459 to Satzler, et al. Claims 1, 2, 4, 6, 8-11, 14, 15, and 18 are rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No 6,412,175 to Labombard.

Independent Claims 1 and 9 have been amended to more clearly set forth the invention of the present application. In addition, new dependent Claim 33 has been added.

Applicant respectfully submits that none of the cited references teaches or describes a method as set forth in independent Claims 1 and 9 as amended. In particular, Claims 1 and 9 now recites a method of constructing a preform for use in forming a machined structural assembly. The method includes linear friction welding structural members to construct the preform such that the preform defines an elongate friction weld joint. None of the cited references teaches forming an elongate friction weld joint. In fact, Satzler, et al. and Labombard are specifically directed to rotational friction welding operations in which two workpieces are relatively rotated and a generally circular weld joint is formed. *See, e.g.,* Satzler, et al. at col. 2, lines 51 to 64 and Figure 1; Labombard at col. 13 line 65 to col. 14, line 3 ("The basic steps in friction welding include step 1 which is having one workpiece rotated and the other held stationary. When the appropriate rotational speed is reached, the two workpieces are brought together and an axial force is applied."). Further, even to the extent that Rhoades, et al. discloses oscillatory motion between members or linear friction welding, there is no teaching or suggestion for forming an "elongate friction weld joint" as claimed.

Moreover, none of the references disclose linear friction welding members that are selected "based on the dimensions of the machined structural assembly, the structural members including excess material such that at least one of the structural members is larger in at least one dimension than the corresponding dimension of the machined structural assembly," as also set forth in each of Claims 1 and 9 as amended. In contrast, Rhoades, et al. states that "a high

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degree of precision, accuracy and reproducibility of alignment of the parts during the bond formation" can be achieved. Col. 5, lines 4 to 10. Overcoming the alignment limitations of the prior friction welding techniques "is one of the most important characteristics and features" of Rhoades, et al. Col. 5, lines 43 to 47. Such precise and accurate alignment presumably dispenses with the "exceedingly complex and expensive machining techniques" required for machining a solid monolithic block. Col. 2, lines 19 to 26.

Claim 9 further recites machining the preform to remove the excess material of the structural member. In particular, at least a portion of the elongate weld joint is removed, so that at least one of the structural members defines a machined surface adjacent the elongate friction weld joint. That is, at least one of the structural members as selected includes excess material, and the excess material is removed after formation of the elongate friction weld joint. None of the cited references teaches removing a portion of an elongate friction weld joint, or removing excess material from a structural member so that the structural member defines a machined surface adjacent the elongate weld joint.

For the foregoing reasons, Applicant submits that Claims 1 and 9, as well as each of the dependent Claims 2-8, 10-18, and 33, are allowable over the cited references.

* * * *

CONCLUSIONS

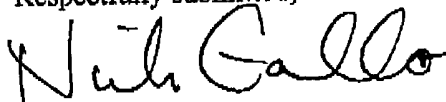
In view of the remarks presented above, Applicant submits that the present application is in condition for allowance. As such, the issuance of a Notice of Allowance is therefore respectfully requested. In order to expedite the examination of the present application, the Examiner is encouraged to contact Applicant's undersigned attorney in order to resolve any remaining issues.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required

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therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,

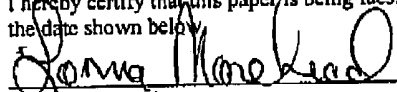


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Lorna Morehead

7/13/2004
Date